

ITEM 18 PLUMBING, ELECTRICAL, MECHANICAL AND ENERGY
SFM 02/04
Part 5
Chapters 1 through 3, 5, 6, and 12 through 15

EXPRESS TERMS

ITEM 18-1

MATRIX ADOPTION TABLES

California State Fire Marshal
UPC 2003 Adoption Matrix / Chapter 1- Administration

Adopt only those sections listed below

1997 UPC	1998 CA Amendment #	2000 UPC	2001 CA Amendment #	2003 UPC	2004 Proposed/ Amendment #	SFM Local Fire	Comments
	101.1.1a		101.1.1		101.1.	X	SFM proposes to carry forward the existing amendment to new code
	101.2.2		101.2.2	101.2	101.2	X	SFM proposes to carry forward the existing amendment to new code
101.4	101.4.1	101.4	101.4.0	101.4	101.4.	X	SFM proposes to carry forward the existing amendment to new code
	101.4.1.4a		101.4.1.4.2		101.4.1.4.1	X	SFM proposes to carry forward the existing amendment to new code
	101.4.4		101.4.4		101.4.4	X	SFM proposes to carry forward the existing amendment to new code
	101.4.4.1		101.4.4.1		101.4.4.1	X	SFM proposes to carry forward the existing amendment to new code
	101.4.4.2		101.4.4.2		101.4.4.2	X	SFM proposes to carry forward the existing amendment to new code
	101.6		101.6		101.6	X	SFM proposes to carry forward the existing amendment to new code
	101.7		101.7		101.7	X	SFM proposes to carry forward the existing amendment to new code
	101.8		101.8		101.8	X	SFM proposes to carry forward the existing amendment to new code
	101.9		101.9		101.9	X	SFM proposes to carry forward the existing amendment to new code
	101.10		101.10		101.10	X	SFM proposes to carry forward the existing amendment to new code
	101.10.1		101.10.1		101.10.1	X	SFM proposes to carry forward the existing amendment to new code
	101.10.2		101.10.2		101.10.2	X	SFM proposes to carry forward the existing amendment to new code
	101.11.		101.11.		101.11	X	SFM proposes to carry forward the existing amendment to new code
	101.11.1		101.11.13		101.11.13	X	SFM proposes to carry forward the existing amendment to new code
	101.14		101.14		101.14	X	SFM proposes to carry forward the existing amendment to new code
102.2.1.1		102.2.1.1	102.2.1.1		102.2.1.1	X	SFM proposes to carry forward the existing amendment to new code
102.2.2.1		102.2.2.1	102.2.2.1		102.2.2.1	X	SFM proposes to carry forward the existing amendment to new code

1997 UPC	1998 CA Amendment #	2000 UPC	2001 CA Amendment #	2003 UPC	2004 Proposed/ Amendment #	SFM Local Fire	Comments
			103.3.2.2		103.3.2.1	X	SFM proposes to carry forward the existing amendment to new code
103.4.6	103.4.6	103.4.6	103.4.6		103.4.6	X	SFM proposes to carry forward the existing amendment to new code
103.4.7			103.4.7		103.4.7	X	SFM proposes to carry forward the existing amendment to new code
	103.9		103.9		103.9	X	SFM proposes to carry forward the existing amendment to new code
	103.9.1		103.9.1		103.9.1	X	SFM proposes to carry forward the existing amendment to new code
	103.9.2		103.9.2		103.9.2	X	SFM proposes to carry forward the existing amendment to new code
	103.9.3		103.9.3		103.9.3	X	SFM proposes to carry forward the existing amendment to new code
	103.9.4		103.9.4		103.9.4	X	SFM proposes to carry forward the existing amendment to new code
	103.9.5		103.9.5		103.9.5	X	SFM proposes to carry forward the existing amendment to new code

California State Fire Marshal
UPC 2003 Adoption Matrix / Chapter 2 Definitions
Adopt those sections listed below

1997 UPC	1998 CA Amendment #	2000 UPC	2001 CA Amendment #	2003 UPC	2004 Proposed/ Amendment #	SFM Local Fire	Comments
223.0	223.0	223.0	223.0	223.0	223.0	X	
			U.P.C.		U.P.C.	X	SFM proposes to carry forward existing adopted UMC language as amendment to new code

California State Fire Marshal
UPC 2003 Adoption Matrix / Chapter 3 General Regulations
Adopt entire Chapter 3 with amendments

1997 UPC	1998 CA Amendment #	2000 UPC	2001 CA Amendment #	2003 UPC	2004 Proposed/ Amendment #	SFM Local Fire	Comments
	311.11		311.11		311.11	X	SFM proposes to carry forward the existing amendment to new code

California State Fire Marshal
UPC 2003 Adoption Matrix / Chapter 4 Plumbing Fixtures and Fixture Fittings
Chapter 4 is not adopted

1997 UPC	1998 CA Amendment #	2000 UPC	2001 CA Amendment #	2003 UPC	2004 Proposed/ Amendment #	SFM Local Fire	Comments
						†	

California State Fire Marshal
UPC 2003 Adoption Matrix / Chapter 5 Water Heaters
Adopt entire Chapter 5 with amendments

1997 UPC	1998 CA Amendment #	2000 UPC	2001 CA Amendment #	2003 UPC	2004 Proposed/ Amendment #	SFM Local Fire	Comments
				505.1		†	SFM does not adopt this section
					505.1.1	X	SFM proposes to adopt this section as amended by HCD 1 & HCD 2.
					508.2.1	X	SFM proposes to adopt this section as amended by HCD 1 & HCD 2.
					508.5.1	X	SFM proposes to adopt this section as amended by HCD 1 & HCD 2.

California State Fire Marshal
UPC 2003 Adoption Matrix / Chapter 6 Water Supply and Distribution

Adopt only those sections listed below

1997 UPC	1998 CA Amendment #	2000 UPC	2001 CA Amendment #	2003 UPC	2004 Proposed/ Amendment #	SFM Local Fire	Comments
				608.5		X	SFM proposes to adopt this section necessary to update the fire and life safety provisions and protect the health, safety and general welfare of private persons and the general public.

California State Fire Marshal
UPC 2003 Adoption Matrix / Chapter 7 Sanitary Drainage

Chapter 7 is not adopted

1997 UPC	1998 CA Amendment #	2000 UPC	2001 CA Amendment #	2003 UPC	2004 Proposed/ Amendment #	SFM Local Fire	Comments
						†	

California State Fire Marshal
UPC 2003 Adoption Matrix / Chapter 8 Indirect Wastes

Chapter 8 is not adopted

1997 UPC	1998 CA Amendment #	2000 UPC	2001 Amendment #	2003 UPC	2004 Proposed/ Amendment #	SFM Local Fire	Comments
						†	

California State Fire Marshal
UPC 2003 Adoption Matrix / Chapter 9 Vents

Chapter 9 is not adopted

1997 UPC	1998 CA Amendment #	2000 UPC	2001 Amendment #	2003 UPC	2004 Proposed/ Amendment #	SFM Local Fire	Comments
						†	

California State Fire Marshal
UPC 2003 Adoption Matrix / Chapter 10 Traps and Interceptors

Chapter 10 is not adopted

1997 UPC	1998 CA Amendment #	2000 UPC	2001 CA Amendment #	2003 UPC	2004 Proposed/ Amendment #	SFM Local Fire	Comments
						†	

California State Fire Marshal
UPC 2003 Adoption Matrix / Chapter 11 Storm Drainage

Chapter 11 is not adopted

1997 UPC	1998 CA Amendment #	2000 UPC	2001 CA Amendment #	2003 UPC	2004 Proposed/ Amendment #	SFM Local Fire	Comments
						†	

California State Fire Marshal
UPC 2003 Adoption Matrix / Chapter 12 Fuel Piping
Adopt entire Chapter 12 with amendments

1997 UPC	1998 CA Amendment #	2001 UPC	2001 CA Amendment #	2003 UPC	2004 Proposed/ Amendment #	SFM Local Fire	Comments
				1211.12.5	1211.12.5	X	SFM proposes to amend this section for clarity.
				1211.15	1211.15	X	SFM proposes to amend this section for clarity.

California State Fire Marshal
UPC 2003 Adoption Matrix / Chapter 13 Health Care Facilities and Medical Gas and Vacuum Systems
Adopt entire Chapter 13 with amendments

1997 UPC	1998 CA Amendment #	2001 UPC	2001 CA Amendment #	2003 UPC	2004 Proposed/ Amendment #	SFM Local Fire	Comments
			1301.0	1301.2	1301.2	X	SFM proposes to carry forward the existing amendment to new code;

California State Fire Marshal
UPC 2003 Adoption Matrix / Chapter 14 Mandatory Referenced Standards
Adopt entire Chapter 14 with amendments

1997 UPC	1998 CA Amendment #	2000 UPC	2001 CA Amendment #	2003 UPC	2004 Proposed/ Amendment #	SFM Local Fire	Comments
	NFPA 13-1996 Edition		NFPA 13-1999 Edition		NFPA 13 – 1999 Edition	X	SFM proposes to carry forward the existing amendment to new code
	NFPA 13R-1996 Edition		NFPA 13R-1999 Edition		NFPA 13R-2002 Edition	X	SFM proposes to carry forward the existing amendment to the new code with modification to update reference to latest standards
			NFPA 14, 2000		NFPA 14 2002 Edition	X	SFM proposes to carry forward the existing amendment to the new code with modification to update reference to latest standards
			NFPA 54 1996		NFPA 54 2002 Edition	X	SFM proposes to carry forward the existing amendment to the new code with modification to update reference to latest standards
			NFPA 58 1998	NFPA 58 2001 Edition		X	SFM proposed to repeal existing amendment and adopt model language
			NFPA 99-1999 Edition		NFPA 99-2002 Edition	X	SFM proposes to carry forward the existing amendment to the new code with modification to update reference to latest standards
			NFPA 99C-1999 Edition		NFPA 99C – 2002 Edition	X	SFM proposes to carry forward the existing amendment to the new code with modification to update reference to latest standards

California State Fire Marshal
UPC 2003 Adoption Matrix / Chapter 15 Firestop Protection
Adopt entire Chapter 15 with amendments

1997 UPC	1998 CA Amendment #	2000 UPC	2001 CA Amendment #	2003 UPC	2003 Proposed/ Amendment #	SFM Local Fire	Comments
			1501.1		1501.1	X	SFM proposes to amend this section for clarity.
			1503.1		1503.1	X	SFM proposes to amend this section for clarity.
			1505.6.4			X	SFM proposes to repeal existing amendment
			1505.6.5			X	SFM proposes to repeal existing amendment
					1507.1	X	SFM proposes to amend this section for clarity.
			1507.2	1507.2		†	SFM does not adopt this section
			1507.3	1507.3		†	SFM does not adopt this section
			1507.4	1507.4		†	SFM does not adopt this section

ITEM 18-1 – Committee Recommendations

A AA D FS

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(END OF ITEM)

ITEM 18-2

CHAPTER 5

505.1 ***[For SFM Not adopted]*** Location Water heater installations in bedrooms and bathrooms shall be of the direct-vent type. [NFPA 54:9.28.1.1]

505.1.1 [For SFM] *Water heaters which depend on the combustion of fuel for heat shall not be installed in a room used or designed to be used for sleeping purposes, bathroom, clothes closets or in a closet or other confined space opening into a bath or bedroom.*

Exception: Direct vent water heaters.

Where not prohibited by other regulations, water heaters may be located under a stairway or landing.

508.2.1 [For SFM] *Protection from Seismic Damage. Water heaters shall be anchored or strapped to resist horizontal displacement due to earthquake motion. Strapping shall be at points within the upper one third (1/3) and lower one-third (1/3) of its vertical dimensions. At the lower point, a minimum distance of four (4) inches (102 mm) shall be maintained above the controls with the strapping.*

Note: The applicable subsection of Health and Safety Code Section 19211(a) which addresses new, replacement, and existing water heaters is repeated here for clarity and reads as follows:

Section 19211(a) Notwithstanding Section 19100, all new and replacement water heaters, and all existing residential water heaters shall be braced, anchored, or strapped to resist falling or horizontal displacement due to earthquake motion. At a minimum, any water heater shall be secured in accordance with the California Plumbing Code, or modifications made thereto by a city county, or city and county pursuant to Section 17958.5.

508.5.1 [For SFM] *Relief valves located inside a building shall be provided with a drain, not smaller than the relief valve outlet, of galvanized steel, hard-drawn copper piping and fittings, CPVC, or listed relief valve drain tube with fittings which will not reduce the internal bore of the pipe or tubing (straight lengths as opposed to coils) and shall extend from the valve to the outside of the building with the end of the pipe not more than two (2) feet (610 mm) nor less than six (6) inches (152 mm) above the ground or the flood level of the area receiving the discharge and pointing downward. Such drains may terminate at other approved locations. No part of such drain pipe shall be trapped or subject to freezing. The terminal end of the Drain pipe shall not be threaded.*

Notation
Authority: H & S Code 1597.46, 13211, 13143, 13143.6
Reference: H & S Code 17921

ITEM 18-2 – Committee Recommendations

A AA D FS

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(END OF ITEM)

ITEM 18-3

CHAPTER 12

1211.12.5 Installation of Gas-Mixing Machines.

- (A) The machine shall be located in a large, well-ventilated area or in a small detached building or cutoff room provided with room construction and explosion vents in accordance with sound engineering principles. Such rooms or belowgrade installations shall have adequate positive ventilation.
- (B) Where gas-mixing machines are installed in well-ventilated areas, the type of electrical equipment shall be in accordance with NFPA 70, *National Electrical Code*® [For SFM] California Electrical Code, for general service conditions unless other hazards in the area prevail. Where gas-mixing machines are installed in small detached buildings or cutoff rooms, the electrical equipment and wiring shall be installed in accordance with NFPA 70, *National Electrical Code*, [For SFM] California Electrical Code for hazardous locations (Articles 500 and 501, Class I, Division 2).
- (C) Air intakes for gas-mixing machines using compressors or blowers shall be taken from outdoors whenever practical.
- (D) Controls for gas-mixing machines shall include interlocks and a safety shutoff valve of the manual reset type in the gas supply connection to each machine arranged to automatically shut off the gas supply in the event of high or low gas pressure. Except for open burner installations only, the controls shall be interlocked so that the blower or compressor will stop operating following a gas supply failure. Where a system employs pressurized air, means shall be provided to shut off the gas supply in the event of air failure.
- (E) Centrifugal gas-mixing machines in parallel shall be reviewed by the user and equipment manufacturer before installation, and means or plans for minimizing these effects of downstream pulsation and equipment overload shall be prepared and utilized as needed.

1211.15 Electrical Connections. (A) All electrical connections between wiring and electrically operated control devices in a piping system shall conform to the requirements of NFPA 70, *National Electrical* [For SFM] California Electrical Code.

Notation
Authority: H & S Codes 18928(a), 13143.9
Reference: H& S Code 18928(a)

ITEM 18-3 – Committee Recommendations

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(END OF ITEM)

ITEM 18-4

[SFM has previously submitted proposed rulemaking to the California Building Standards under the 2003 annual code cycle. The SFM has proposed amendments to the 2001 California Building and Fire Codes addressing updates to the National recognized standards as adopted and amended in chapter 35 of CBC and article 91 of CFC. The proposed amendments listed below in chapter 14 are correlated with the proposed amendments to the CBC and CFC.]

Chapter 14

Mandatory Referenced Standards Table 14-1

NFPA 13R- ~~1999~~ 2002 Edition, Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height Piping [For SFM]

NFPA 13D- ~~1999~~ 2002 Edition Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes Piping [For SFM]

NFPA 14, ~~2000~~ - 2003 Edition, Installation of Standpipe, Private Hydrant and Hose Systems Piping [For SFM]

NFPA 54-96 - 2002 Edition, National Fuel Gas Code Fuel Gas [For SFM]

NFPA 58-98 - 2001 Edition, Storage and Handling of Liquefied Petroleum Gases Fuel Gas [For SFM]

NFPA 99-93 - 2002 Edition, Medical Gas Systems Piping Health Care Facilities [For SFM] ~~NFPA 99-99~~

NFPA 99C-93 - 2002 Edition, Gas and Vacuum Systems Piping [For SFM] ~~NFPA 99C-99~~

Notation

Authority: H & S Code 18928(a)

Reference: H & S Code 18929(a)

ITEM 18-4 – Committee Recommendations

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(END OF ITEM)

ITEM 18-5

CHAPTER 15

1501.1 Applicability. All piping penetrations of required fire-resistance-rated walls, partitions, floors, floor/ceiling assemblies, roof/ceiling assemblies, or shaft enclosures shall be protected in accordance with the requirements of NFPA 5000, NFPA *[For SFM] California* Building Code.

1503.1 Firestop materials shall be installed in accordance with this chapter, the *[For SFM] California* Building Code, and the manufacturer's instructions.

~~1506.4 [For SFM] The penetration must meet any additional requirements for protection of the penetration in the building code adopted by the Administrative Authority.~~

~~1506.5 [For SFM] Prior to being concealed, piping penetrations shall be inspected to verify compliance with the fire resistance rating prescribed in the building code.~~

1507.1 General. Prior to being concealed, piping penetrations shall be inspected by the Authority Having Jurisdiction to verify compliance with the fire resistance rating prescribed in the Building Code, NFPA 5000, NFPA [For SFM] California Building Code.

Notation

Authority: H & S Code 18928(a)

Reference: H & S Code 18928(a)

ITEM 18-5 – Committee Recommendations

A AA D FS

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(END OF ITEM)

INITIAL STATEMENT OF REASONS

STATEMENT OF SPECIFIC PURPOSE AND RATIONALE

The specific purpose of this rulemaking effort by the SFM is to act accordance with Health and Safety Code (H&SC) section 18928, which requires all proposed regulations to specifically comply with this section in regards to the adoption by reference with amendments to a model code within one year after it's publication.

The specific purpose of each amendment is as follows:

Chapter 5 Water Heaters

Section 505 Gas Fired Water Heater Approval Requirements

The SFM proposes the addition of this amendment to clarify prohibited installations of fuel combustion water heaters and give exceptions.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in SFM regulated occupancies that are addressed in the 2003 Uniform Plumbing Code (UPC) and published as the 2003 CPC pursuant to Health and Safety Codes 18928(a), 1597.46, 13143, 13143.6(a), 13143.9(a), 13211, 17921(b).

Section 508 Clearances

The SFM proposes the addition of this section to give anchoring and strapping requirements for water heaters to prevent earthquake damage.

508.5.1 The SFM proposes the addition of this section to provide clearance requirements for water heater relief valve drains.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in SFM regulated occupancies that are addressed in the 2003 Uniform Plumbing Code (UPC) and published as the 2003 CPC pursuant to Health and Safety Codes 18928(a), 1597.46, 13143, 13143.6(a), 13143.9(a), 13211, 17921(b).

Chapter 12 Fuel Piping

Section 1211 Installation of Gas Piping

1211.12.5(B) The SFM proposes to amend this section by clarifying that the SFM adopts this section with reference to the California Electrical Code.

1121.15(A) The SFM proposes to amend this section by referencing SFM adoption with the California Electrical Code.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in SFM regulated occupancies that are addressed in the 2003 Uniform Plumbing Code (UPC) and published as the 2003 CPC pursuant to Health and Safety Codes 18928(a), 1597.46, 13143, 13143.6(a), 13143.9(a), 13211, 17921(b).

Chapter 14 Mandatory Referenced Standards

Table 14-1 The SFM proposes to update this section by updating listed standards to current versions of the applicable NFPA edition.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in SFM regulated occupancies that are addressed in the 2003 Uniform Plumbing Code (UPC) and published as the 2003 CPC pursuant to Health and Safety Codes 18928(a), 1597.46, 13143, 13143.6(a), 13143.9(a), 13211, 17921(b).

Chapter 15 Piping Applications

Section 1501 General Requirements

1501.1 The SFM proposes to amend this section by referencing SFM adoption with the California Building Code.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in SFM regulated occupancies that are addressed in the 2003 Uniform Plumbing Code (UPC) and published as the 2003 CPC pursuant to Health and Safety Codes 18928(a), 1597.46, 13143, 13143.6(a), 13143.9(a), 13211, 17921(b).

Section 1503 Installation

1503.1 The SFM proposes to amend this section by clarifying that the SFM adopts with reference to the California Building Code.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in SFM regulated occupancies that are addressed in the 2003 Uniform Plumbing Code (UPC) and published as the 2003 CPC pursuant to Health and Safety Codes 18928(a), 1597.46, 13143, 13143.6(a), 13143.9(a), 13211, 17921(b).

Section 1507 Model Code References

1507.1 The SFM proposes to amend this section by referencing SFM adoption with the California Building Code.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in SFM regulated occupancies that are addressed in the 2003 Uniform Plumbing Code (UPC) and published as the 2003 CPC pursuant to Health and Safety Codes 18928(a), 1597.46, 13143, 13143.6(a), 13143.9(a), 13211, 17921(b).

AN IDENTIFICATION OF EACH TECHNICAL, THEORETICAL, AND EMPIRICAL STUDY, REPORT, OR SIMILAR DOCUMENT UPON WHICH THE AGENCY IS RELYING IN PROPOSING THE ADOPTION, AMENDMENT, OR REPEAL.

The SFM did not rely on any technical, theoretical, and empirical study, report in proposing the amendments to the 2003 UPC. However, the SFM reviewed and considered similar documents as listed below:

NFPA 54

NFPA 96
NFPA 90A
2001 Edition of the CPC

CONSIDERATION OF REASONABLE ALTERNATIVES

(Government Code Section 11346.2(b)(3)(A))

The SFM has determined that no alternative considered would be more effective in carrying out the purpose for which the regulations are proposed or would be as effective and less burdensome to affected private persons than the proposed adoption by reference with amendments to the 2003 UPC.

REASONABLE ALTERNATIVES THE AGENCY HAS IDENTIFIED THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS

(Government Code Section 11346.2(b)(3)(B))

No other alternatives have been identified or have otherwise been identified and brought to the attention of the SFM that would lessen any adverse impact on small business.

FACTS, EVIDENCE, DOCUMENTS, TESTIMONY, OR OTHER EVIDENCE OF NO SIGNIFICANT ADVERSE IMPACT ON BUSINESS

(Government Code Section 11346.2(B)(4))

The SFM has made an initial determination that this proposed action will not have a significant adverse economic impact on business. Therefore, there are no other facts, evidence, documents, testimony, or other evidence on which the SFM relies to support this rulemaking.

The SFM is required under H&SC section 18928 to propose the adoption by reference with amendments the 2003 UPC within one year after it's publication.

DUPLICATION OR CONFLICTS WITH FEDERAL REGULATIONS

The SFM has determined that there is no duplication or conflict with Federal regulations. There are no comparable federal regulations or statutes addressing the fire and life safety requirements of a plumbing code.